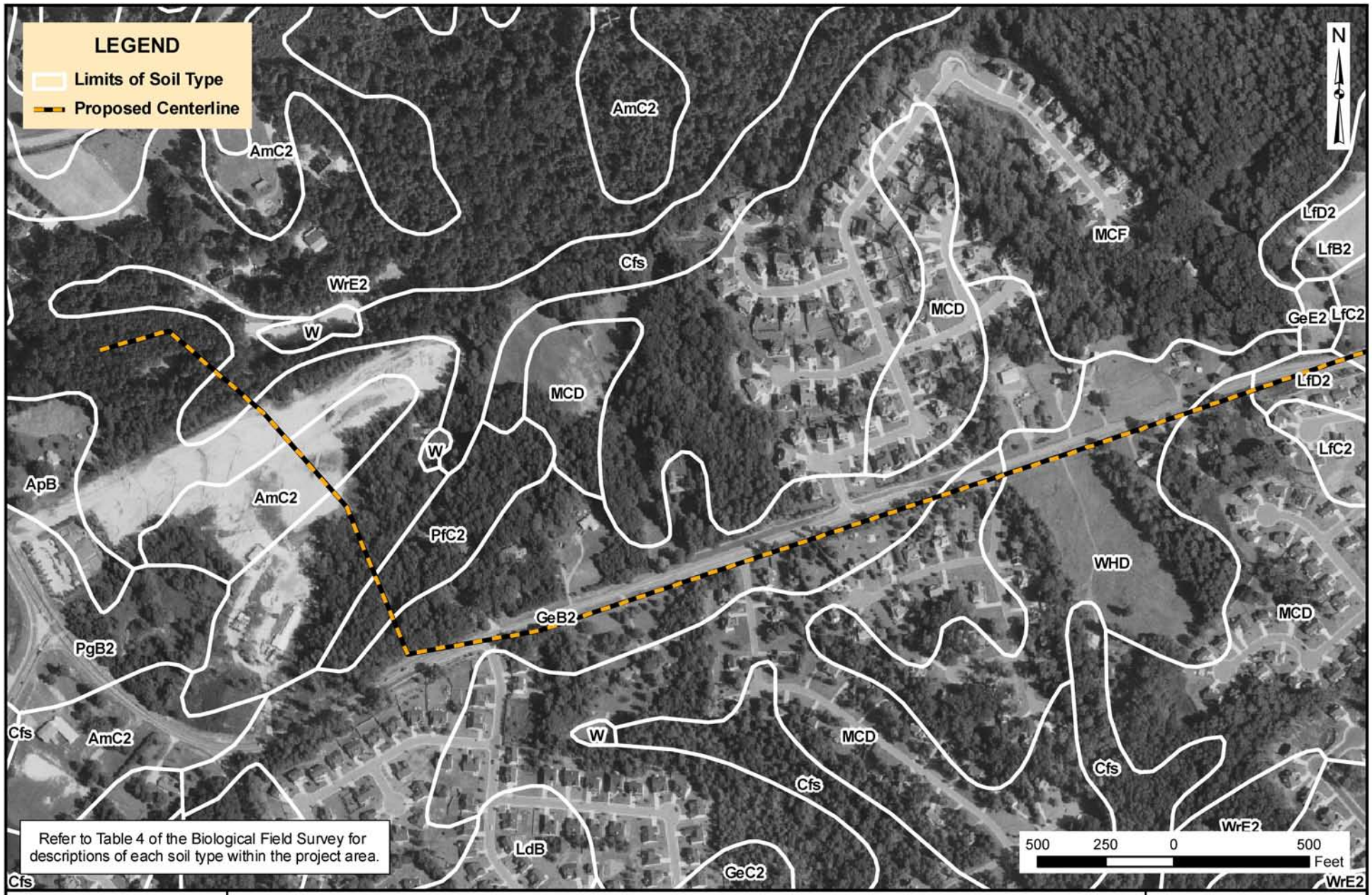


GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date:	January 2008
Scale:	1" = 500'
Proj. No.:	04123204

Figure 5A

GeorgiaTransmission

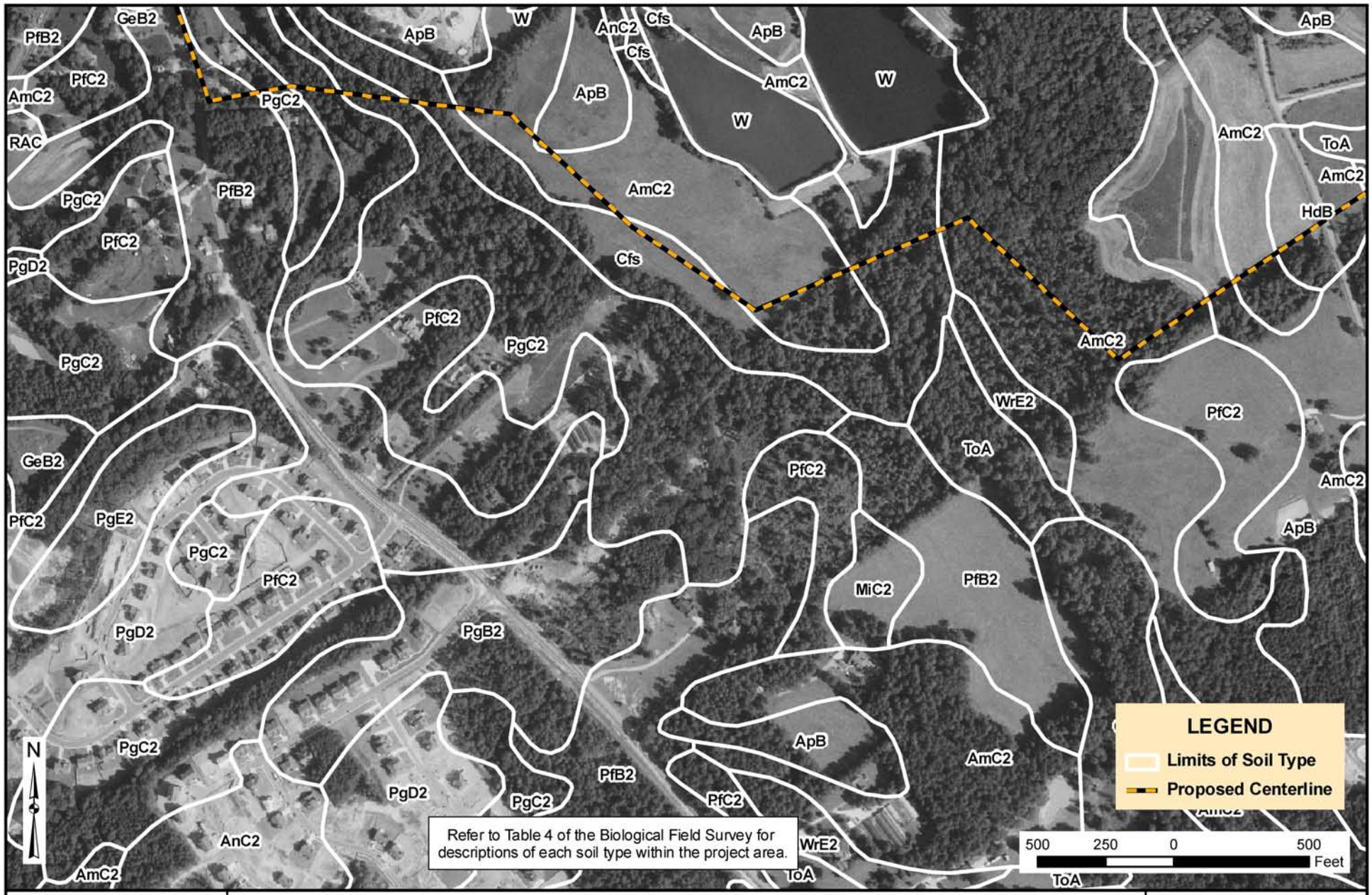
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5B



GeorgiaTransmission

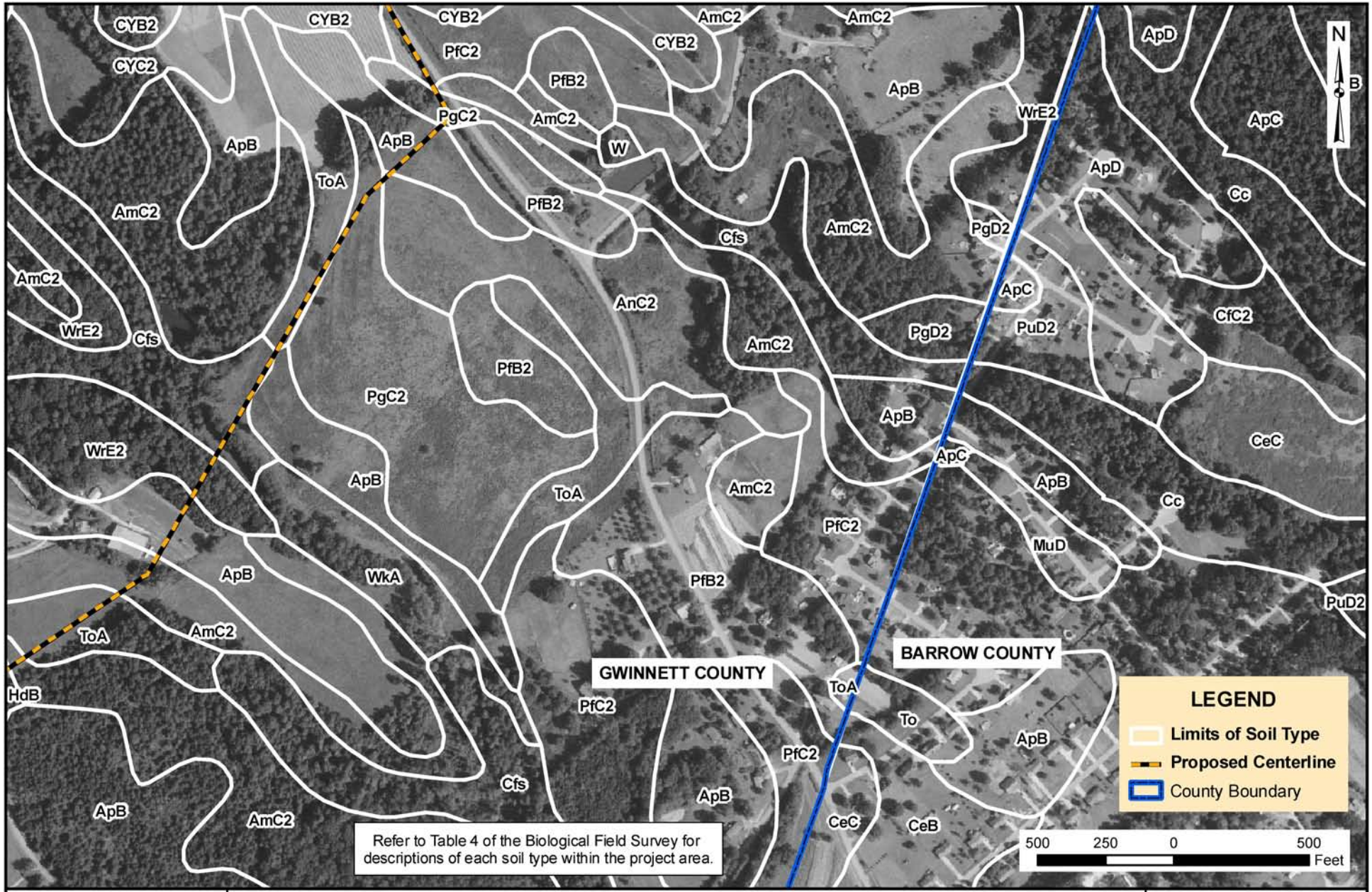
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5C



GeorgiaTransmission

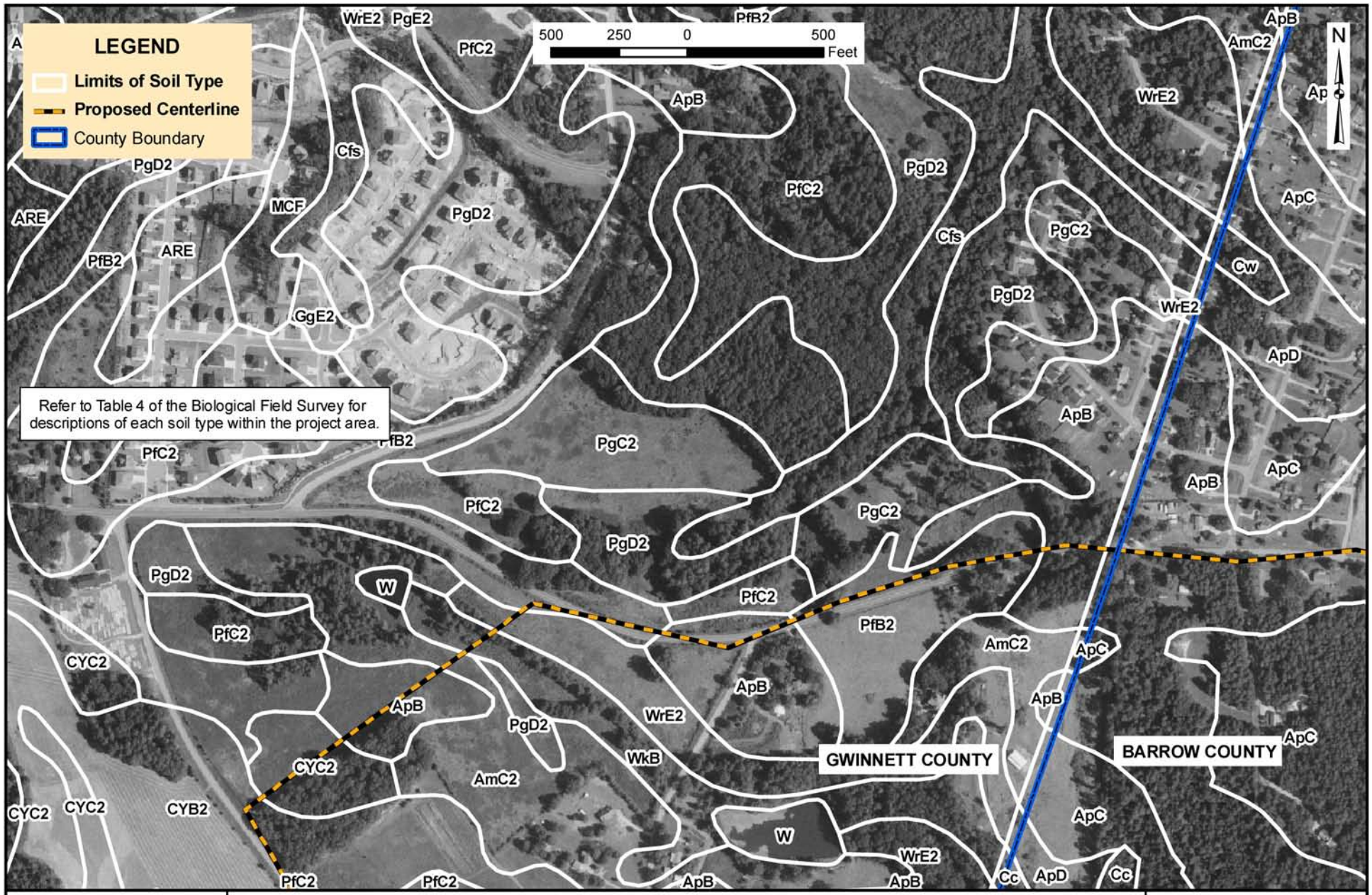
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5D



GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5E

GeorgiaTransmission

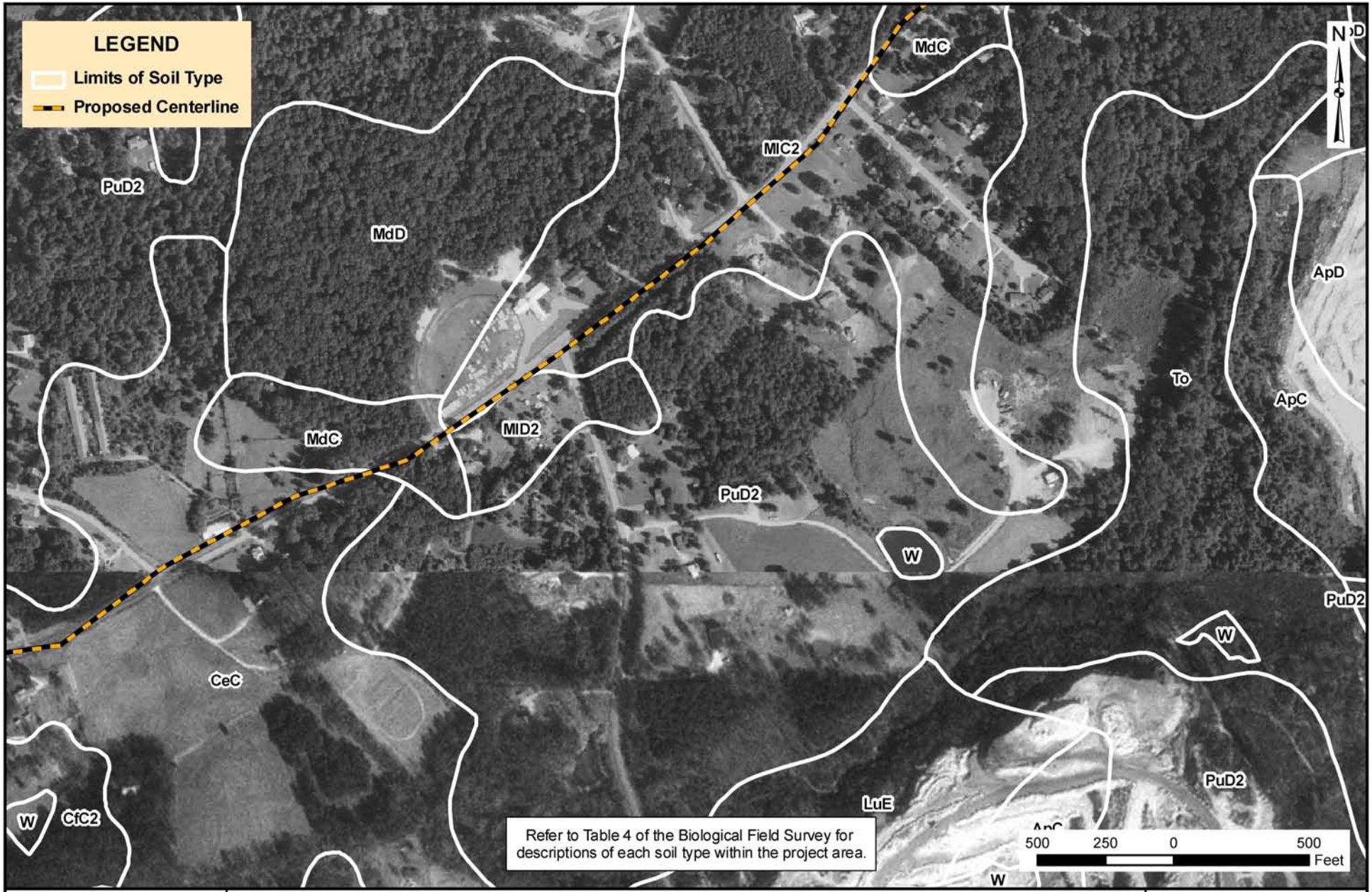
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date:	January 2008
Scale:	1" = 500'
Proj. No.:	04123204

Figure 5F



GeorgiaTransmission

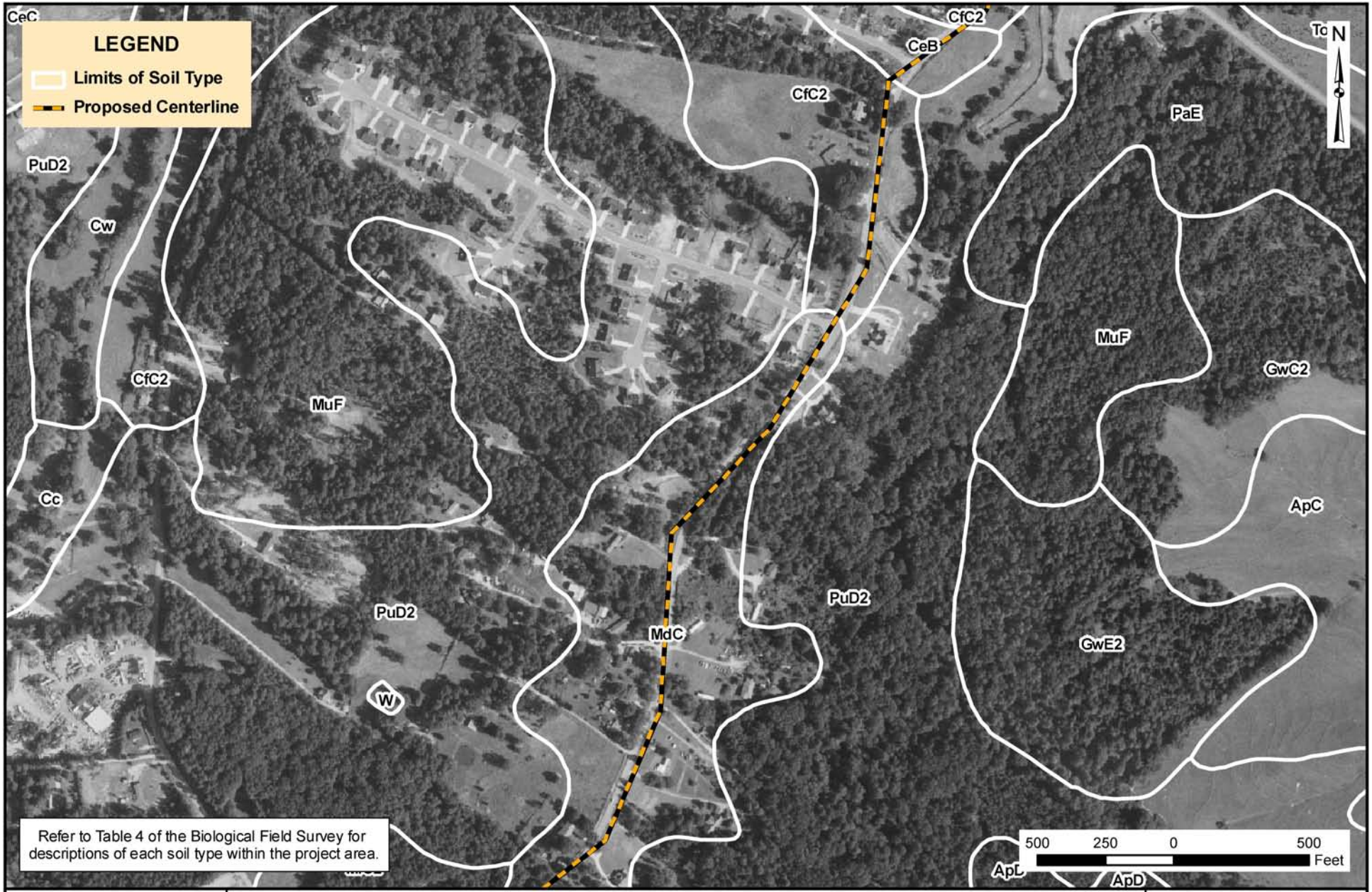
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5G



GeorgiaTransmission

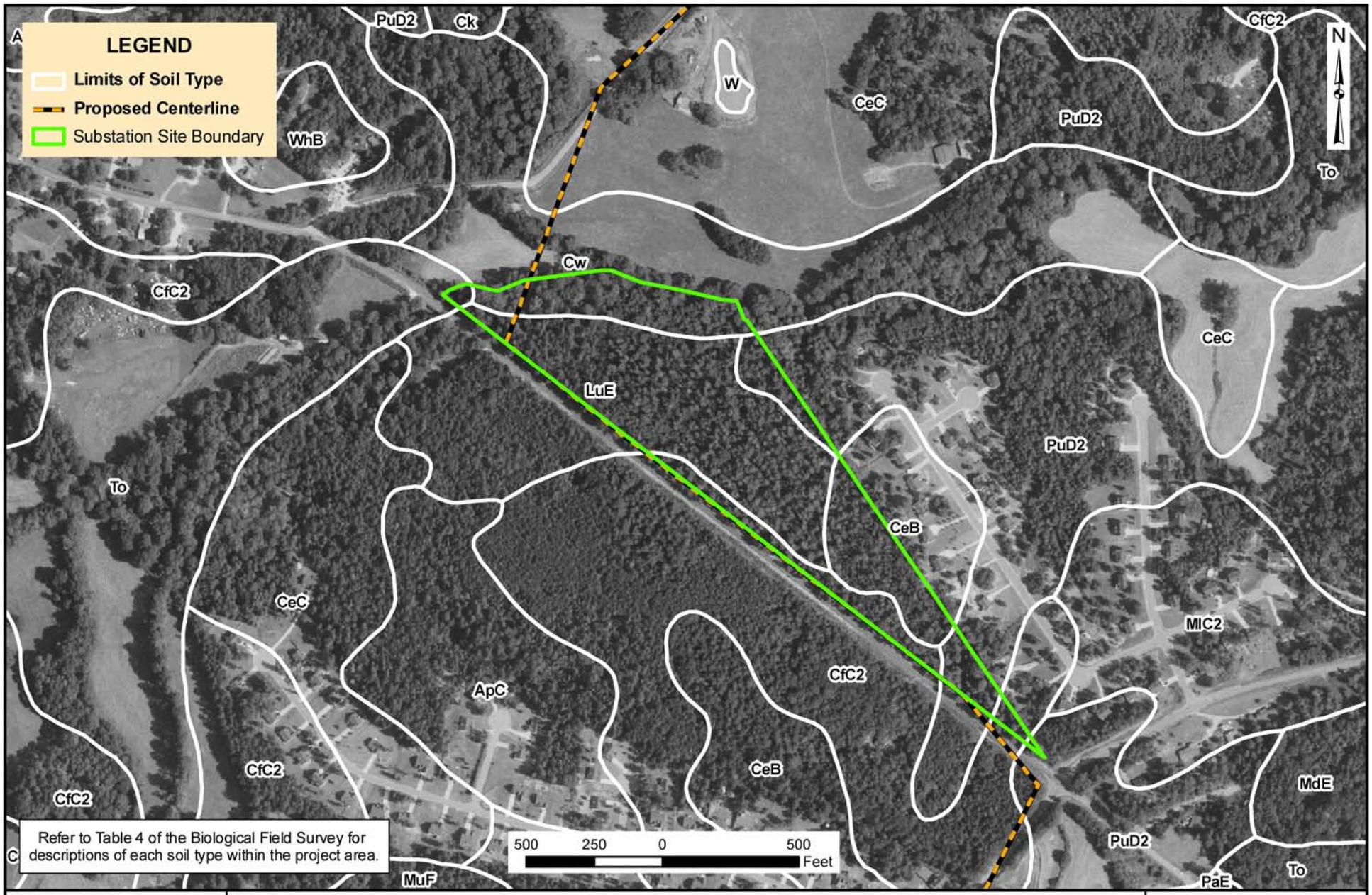
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5H



GeorgiaTransmission

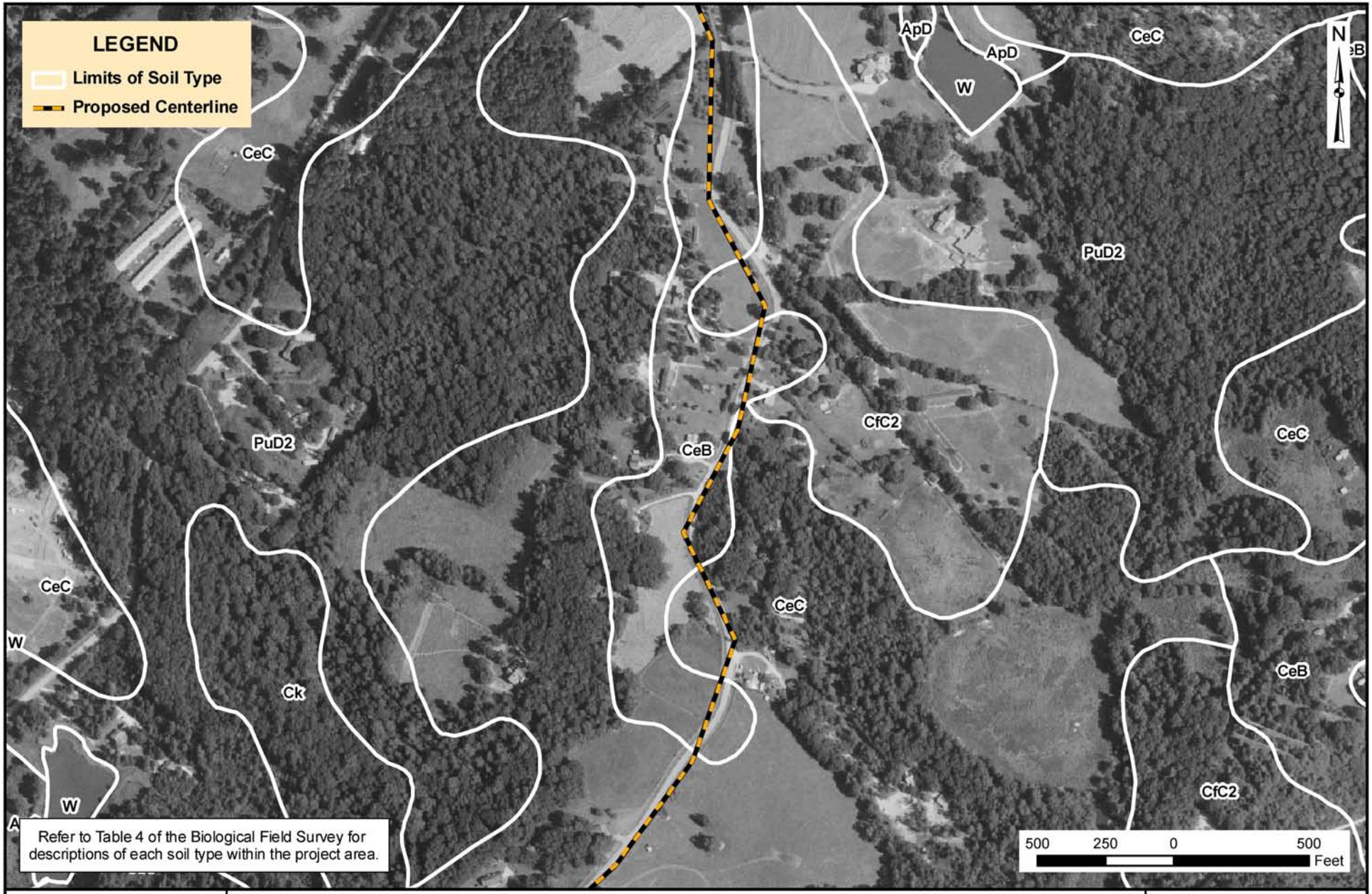
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5I



GeorgiaTransmission

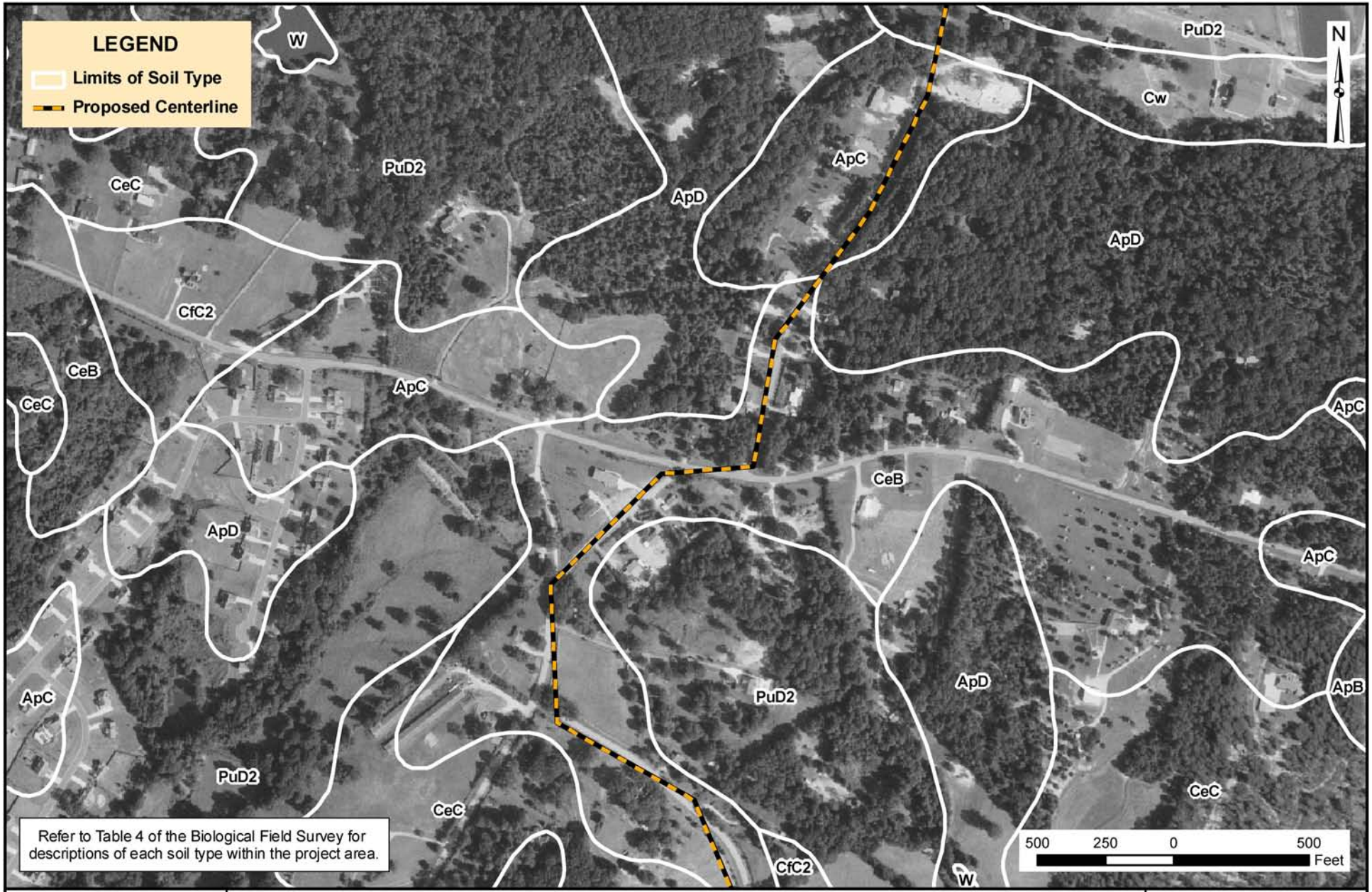
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date: January 2008
Scale: 1" = 500'
Proj. No.: 04123204

Figure 5J



GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date:	January 2008
Scale:	1" = 500'
Proj. No.:	04123204

Figure 5K

GeorgiaTransmission

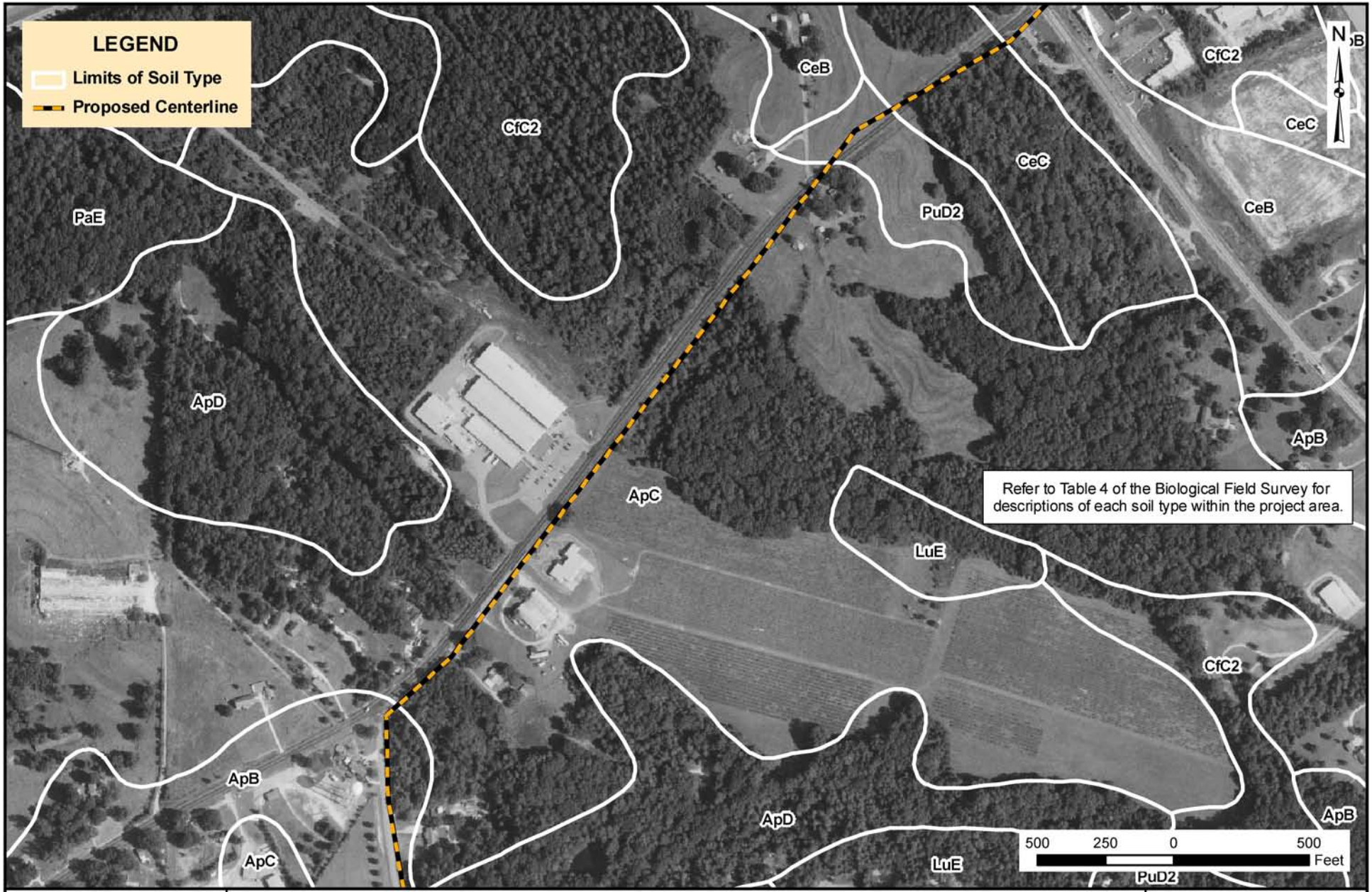
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date:	January 2008
Scale:	1" = 500'
Proj. No.:	04123204

Figure 5L



GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date:	January 2008
Scale:	1" = 500'
Proj. No.:	04123204

Figure 5M

GeorgiaTransmission

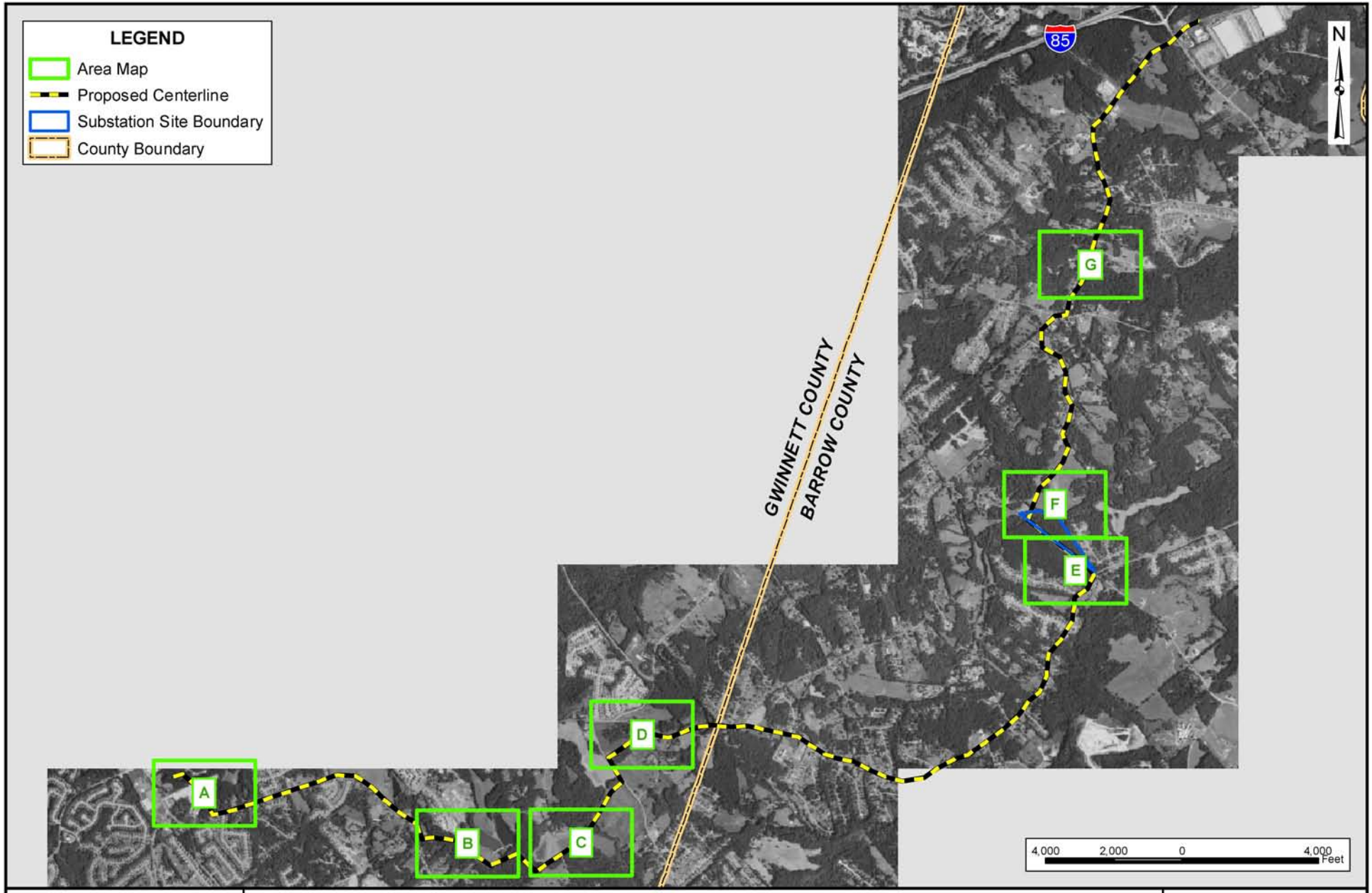
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Soils Map

Date:	January 2008
Scale:	1" = 500'
Proj. No.:	04123204

Figure 5N



GeorgiaTransmission

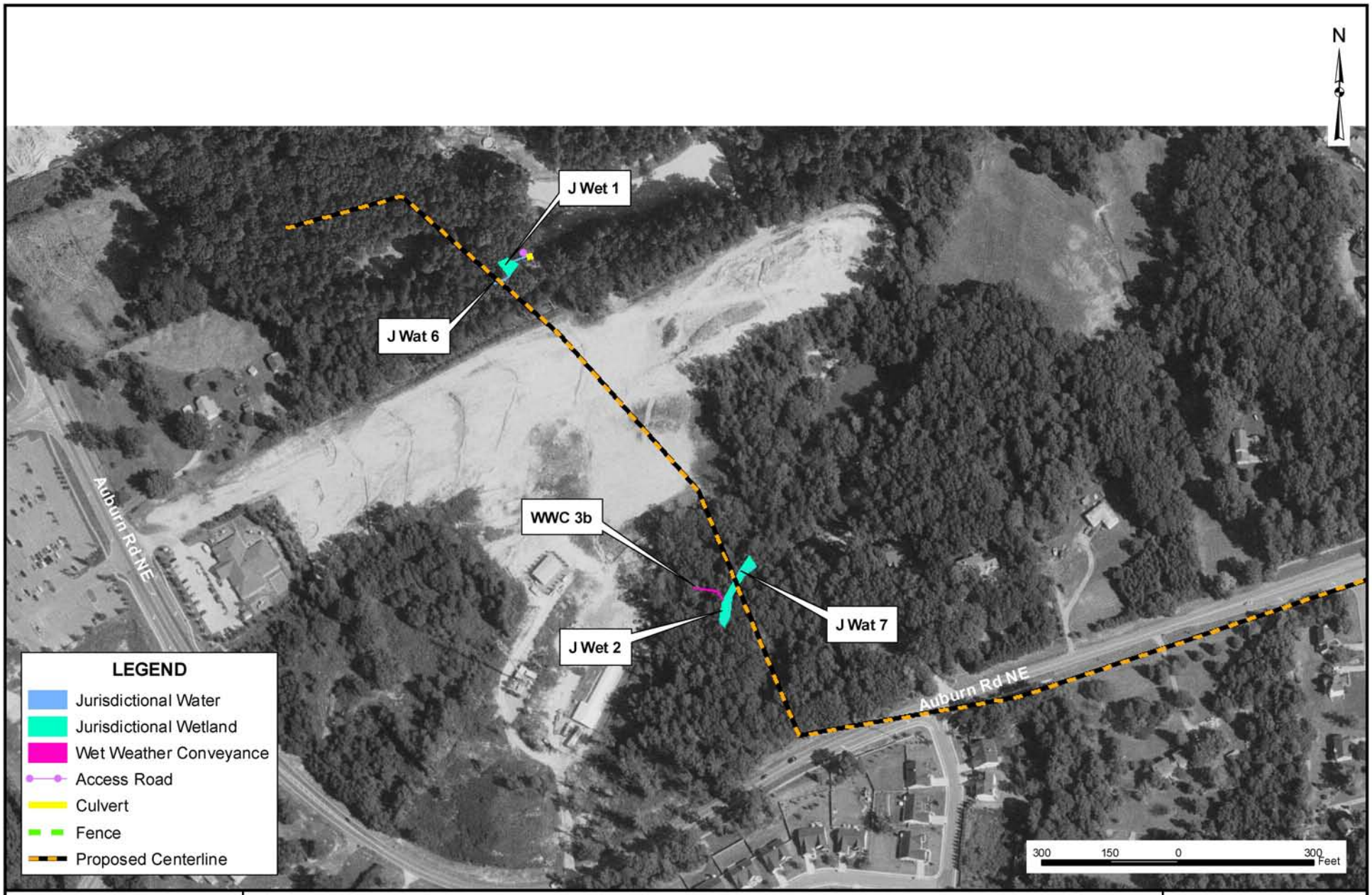
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map - Index

Date: January 2008
Scale: 1" = 4000'
Proj. No.: 04123204

Figure 6



GeorgiaTransmission

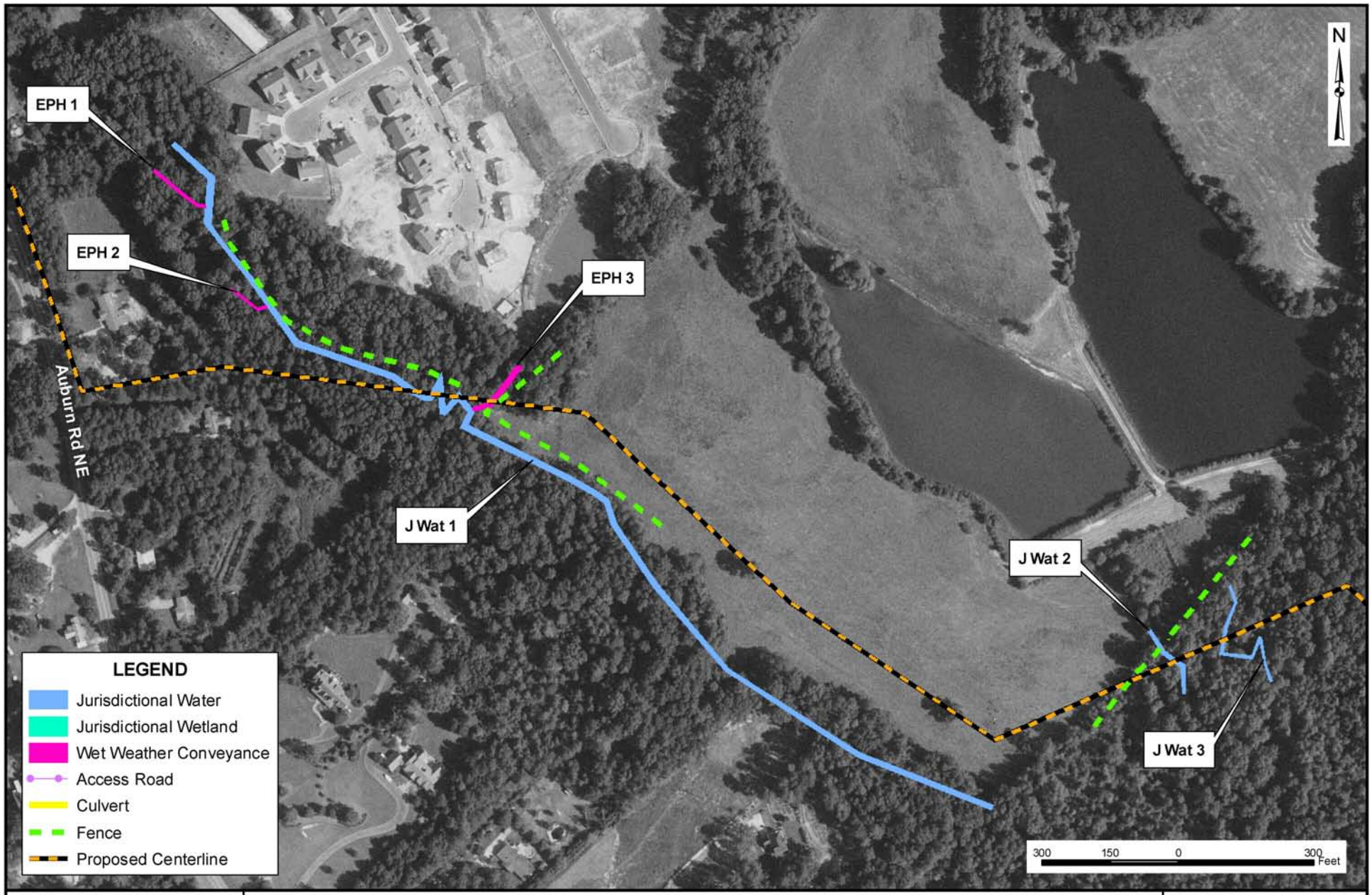
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map

Date: January 2008
Scale: 1" = 300'
Proj. No.: 04123204

Figure 6A



GeorgiaTransmission

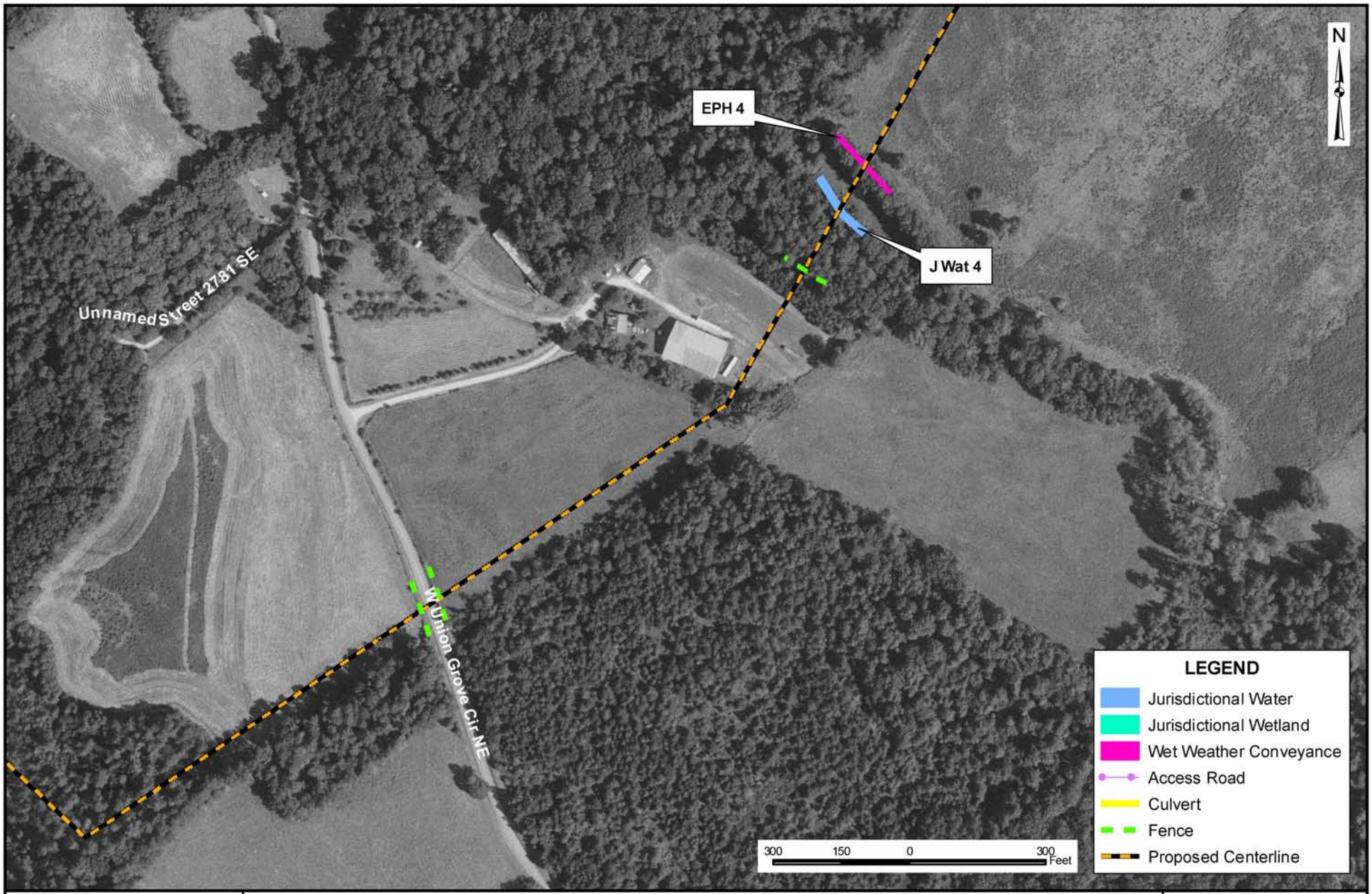
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map

Date: January 2008
Scale: 1" = 300'
Proj. No.: 04123204

Figure 6B



GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map

Date: January 2008
Scale: 1" = 300'
Proj. No.: 04123204

Figure 6C

GeorgiaTransmission

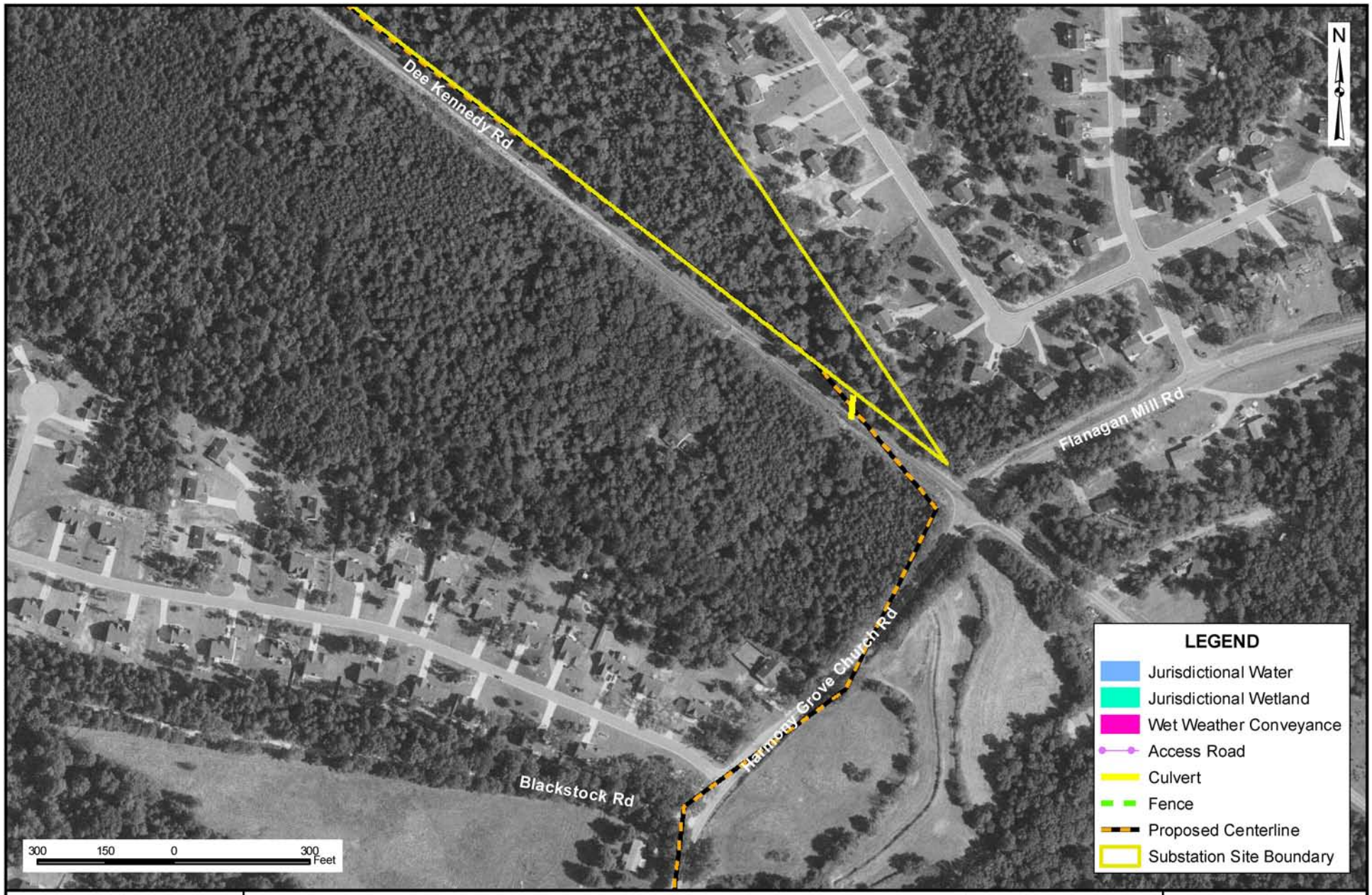
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map

Date: January 2008
Scale: 1" = 300'
Proj. No.: 04123204

Figure 6D



GeorgiaTransmission

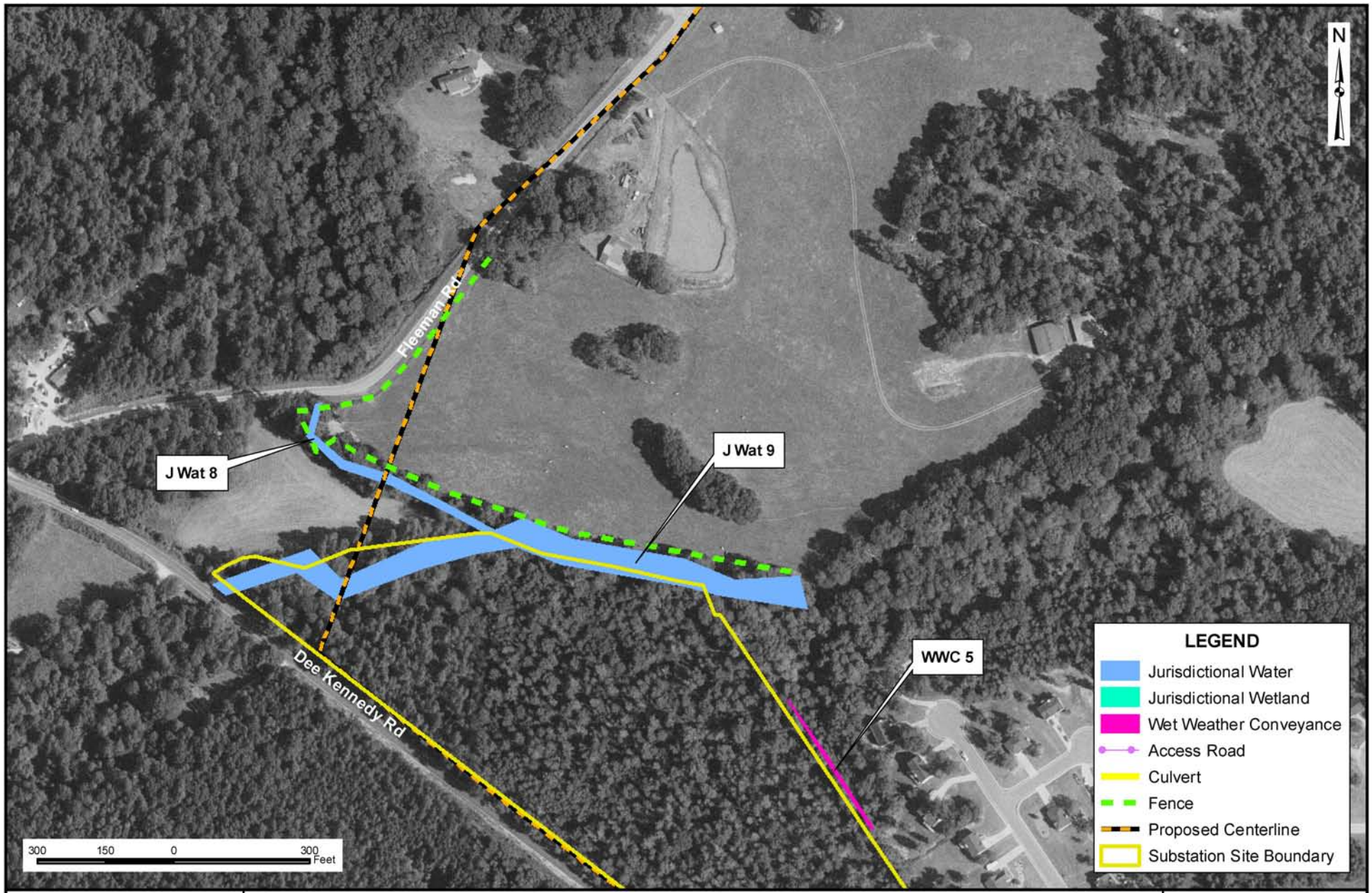
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map

Date: January 2008
Scale: 1" = 300'
Proj. No.: 04123204

Figure 6E



GeorgiaTransmission

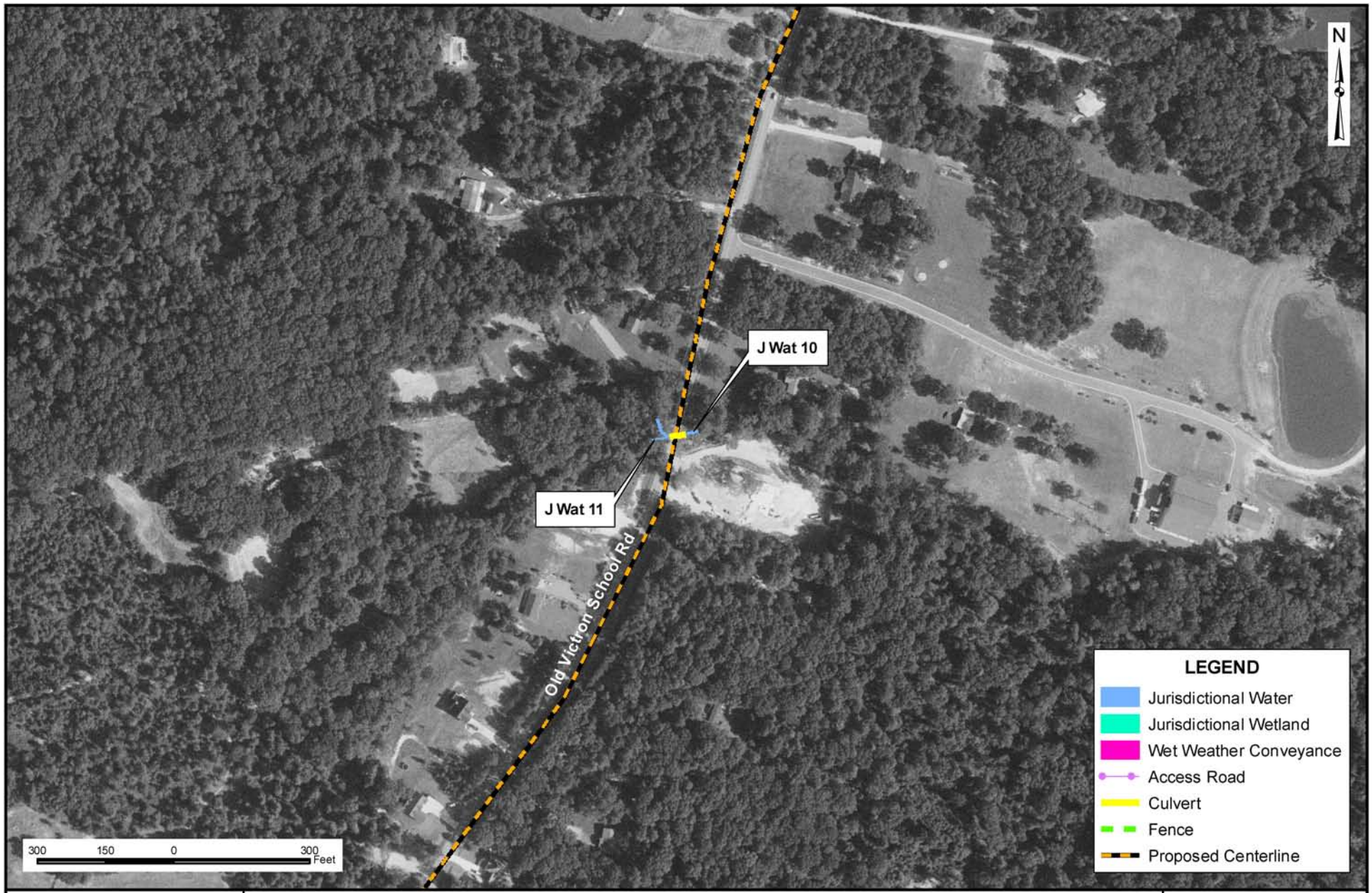
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map

Date: January 2008
Scale: 1" = 300'
Proj. No.: 04123204

Figure 6F



GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and
Flanagan Mill Road Advanced Land Purchase Substation Site
Gwinnett and Barrow Counties, Georgia

Jurisdictional Areas Location Map

Date: January 2008
Scale: 1" = 300'
Proj. No.: 04123204

Figure 6G

Lower Perennial Stream

Intermittent Stream

GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line and Flanagan Mill Road Advanced Land Purchase Substation Site Gwinnett and Barrow Counties, Georgia

Representative Photographs of Jurisdictional Streams

Date:	January 2008
Scale:	Not Applicable
Project No.:	04123204

Figure 7

Jordan Jones & Goulding

APPENDIX A
Agency Coordination

Protected Species Correspondence Summary

In addition to reviewing existing database information, a letter requesting any additional protected species information for the proposed project area was sent to the GADNR-NCS on August 8, 2007 (attached). A response was received on September 11, 2007. Please refer to the attached correspondence.

The tentative list of known protected species was compiled by review of the federal "Redbook" – Region 4, a copy of the United States Fish and Wildlife Service (USFWS) county database (WordPerfect 6.1 tables updated December 2006) http://www.fws.gov/athens/endangered/counties_endangered.html, *Protected Animals of Georgia* (GDNR, 1999), *Protected Plants of Georgia* (Patrick *et al.,* 1995), and review of element occurrence records on the Georgia Department of Natural Resources Non-game Conservation Service (GADNR-NCS) web site http://www.dnr.state.ga.us/dnr/wild/.

Noel Holcomb, Commissioner
Dan Forster, Director

Georgia Department of Natural Resources
Wildlife Resources Division
Nongame Conservation Section
2065 U.S. Highway 278, S.E., Social Circle, Georgia 30025-4743
(770) 918 6411

September 11, 2007

Kevin Mullinax
Ecologist
Jordan, Jones, & Goulding
6801 Governors Lake Parkway
Building 200
Norcross, GA 30071

Subject: **Known Occurrences of Conservation Areas and Special Concern Animals and Plants On or Near Jim Moore Road - Sharon Church 230 kV Transmission Line Project, Barrow County, Georgia**

Dear Mr. Mullinax:

This is in response to your request of August 8, 2007. According to our records, within a three-mile radius of the project corridor there are the following Natural Heritage Database occurrences:

Jim Moore Road Substation (-83.90664, 34.03491; NAD27):
Aesculus glabra (Ohio Buckeye) approx. 1.5 mi. NE of site
Alcovy River [High Priority Stream] approx. 2.0 mi. SW of site
Apalachee River [High Priority Stream] approx. 1.0 mi. SW of site
Little Mulberry River Park [Gwinnett County Parks and Recreation Department] approx. 0.5 mi. E of site

Gwinnett / Barrow County Line (-83.85428, 34.03837; NAD27):
Panax quinquefolius (American Ginseng) approx. 1.5 mi. NW of site
GA *Veratrum woodii* (Ozark Bunchflower) approx. 1.5 mi. NW of site

Sharon Church Substation (-83.80850, 34.09456; NAD27):
US *Amphianthus pusillus* (Pool Sprite) approx. 2.5 mi. N of site
GA *Cyprinella xaenura* (Altamaha Shiner) approx. 1.0 mi. NW of site in Duncan Creek
Hemidactylium scutatum (Four-toed Salamander) approx. 2.0 mi. N of site
US *Isoetes melanospora* (Black-spored Quillwort) approx. 2.5 mi. N of site
US *Isoetes tegetiformans* (Mat-forming Quillwort) approx. 2.5 mi. N of site

* Entries above proceeded by "US" indicates species with federal status in Georgia (Protected or Candidate). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

Recommendations:

We have no records of species of concern within the project corridor. However, three federally listed species, *Amphianthus pusillus* (Pool Sprite), *Isoetes melanospora* (Black-spored Quillwort) and *Isoetes tegetiformans* (Mat-forming Quillwort) are within three miles of the proposed project. These species rely on granite rock outcrop habitats. If no outcrop habitats are found within the project corridor, this project should not negatively impact these species. We recommend thoroughly surveying the project corridor for these and other species of concern before any work is begun. Section 9 of the Endangered Species Act states that taking or harming of a listed species is prohibited. We recommend all requestors with projects located near federally protected species consult with Robin Goodloe of the United States Fish and Wildlife Service (706-613-9493, ext.221 or Robin_Goodloe@fws.gov).

In order to protect aquatic habitats and water quality, we recommend that all machinery be kept out of creeks during powerline construction. Streams should not be culverted/forded to allow equipment access during construction or for future ROW maintenance. Further, we strongly advocate retaining at least a 25-foot vegetative buffer between each stream bank and the closest power pole, and allow this buffer to regenerate to shrub-scrub growth after the pipe is installed (if the landowner is willing). We realize that some trees may have to be removed, but recommend that shrubs and ground vegetation be left in place. Wider buffers may be needed for projects where land slopes sharply toward the stream being crossed. We also recommend that stringent erosion control practices be used during construction activities and that vegetation is re-established on disturbed areas as quickly as possible. Silt fences and other erosion control devices should be inspected and maintained until soil is stabilized by vegetation. Please use natural vegetation and grading techniques (e.g. vegetated swales, turn-offs, vegetated buffer strips) that will ensure that the project area does not serve as a conduit for storm water or pollutants into the water during or after construction. These measures will help protect water quality in the vicinity of the project as well as in downstream areas.

Please be aware that this project occurs near the Alcovy and Apalachee Rivers, both high priority streams. As part of an effort to develop a comprehensive wildlife conservation strategy for the state of Georgia, the Wildlife Resources division has developed and mapped a list of streams that are important to the protection or restoration of rare aquatic species and aquatic communities. High priority waters and their surrounding watersheds are a high priority for a broad array of conservation activities, but do not receive any additional legal protections. We now have GIS ESRI shapefiles of GA high priority waters available on our website (http://www.georgiawildlife.com/content/displaycontent.asp?txtDocument=89&txtPage=13). Please contact the Georgia Natural Heritage Program if you would like additional information on high priority waters.

New Data Available on the Nongame Conservation Section Website

We have recently updated the Nongame Conservation Section Website!!! You can view the updated rare species and natural community information by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at:

http://georgiawildlife.dnr.state.ga.us/content/displaycontent.asp?txtDocument=89

An updated ESRI shape file of our rare species and natural community data by quarter quad and county is also available. It can be downloaded from:
http://georgiawildlife.dnr.state.ga.us/assets/documents/gnhp/gnhpds.zip

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of special concern species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.georgiawildlife.com) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Katrina Morris
Environmental Review Coordinator

Jordan Jones & Goulding

APPENDIX B
Wetland Data Sheets

Data Form
Routine Wetland Determination

Job Number: **04123215**
Town/Village/City:
Wetland Data Point: **J Wet 1**

Project/Site: **Jim Moore Road-Sharon Church Transmission Line**
Applicant/Owner: **Georgia Transmission Corporation**
Investigator: **KAM**
[**True**] Do normal circumstances exist on the site?
[**False**] Is the site significantly disturbed (Atypical Situation)?
[**False**] Is the area a potential problem area?

Date: **July 16, 2007**
County: **Gwinnett and Barrow**
State: **Georgia**
Community ID: **PEM1B**
Station ID:
Plot ID:

Vegetation

Dominant	Species	Common Name / CofC	% Cover	Indicator
Herbaceous				
X	*Juncus effusus*	Rush,Soft		FACW+
X	*Eleocharis obtusa*	Spikerush,Blunt		OBL
X	*Ludwigia decurrens*	Willow,Primrose		OBL
X	*Carex intumescens*	Sedge,Bladder		FACW

% Species that are OBL, FACW, or FAC (except FAC-): **100**
Cowardin Classification:

Remarks

Hydrology

[ ] Recorded Data (describe in remarks)
- [ ] Stream, Lake, or Tide Gage
- [ ] Aerial Photograph
- [ ] Other (describe in remarks)

Field Observations:
- Depth of Surface Water(in.):
- Depth to Free Water in Pit(in.):
- Depth to Saturated Soils(in.):

Primary Wetland Hydrology Indicators
- [ ] Inundated
- [X] Saturated in upper 12 inches
- [ ] Water marks
- [ ] Drift lines
- [ ] Sediment deposits
- [X] Drainage patterns in wetlands

Secondary Hydrology Indicators
- [ ] Oxidized root channels
- [ ] Water-stained leaves
- [ ] Local soil survey data
- [ ] FAC-Neutral test
- [ ] Other (explain in remarks)

Remarks

Soils

Depth (in.)	Hor.	Matrix Color	Mottle / 2nd Mottle Color	Abundance	Contrast	Texture, Structure, etc.
0-12		10YR 4/1				Clay Loam

Hydric Soils Indicators
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic Odor
- [ ] Probable Aquatic Moist Regime
- [X] Reducing Conditions
- [X] Gleyed or Low-Chroma Colors
- [ ] Concretions
- [ ] High Organic % in Surface Layer in Sandy Soils
- [ ] Organic Streaking in Sandy Soils
- [ ] Listed on Local Hydric Soils List
- [ ] Listed on National Hydric Soils List
- [ ] Other (explain in remarks)

Unit Name:
Drainage Class:
Taxonomy:
[ ] Field Observations match map

Remarks

Wetland Determination

[**True**] Hydrophytic Vegetation Present
[**True**] Hydric Soils Present
[**True**] Wetland Hydrology Present
[**True**] This Data Point is a Wetland

Remarks

Data Form
Routine Wetland Determination

Job Number: **04123215**
Town/Village/City:
Wetland Data Point: **J Wet 2**

Project/Site: **Jim Moore Road-Sharon Church Transmission Line**
Applicant/Owner: **Georgia Transmission Corporation**
Investigator: **KAM**
[**True**] Do normal circumstances exist on the site?
[**False**] Is the site significantly disturbed (Atypical Situation)?
[**False**] Is the area a potential problem area?

Date: **July 16, 2007**
County: **Gwinnett and Barrow**
State: **Georgia**
Community ID: **PEM1B**
Station ID:
Plot ID:

Vegetation

Dominant	Species	Common Name / CofC	% Cover	Indicator
Herbaceous				
X	*Juncus effusus*	Rush,Soft		FACW+
X	*Scirpus cyperinus*	Wool-Grass		OBL
X	*Polygonum sagittatum*	Tearthumb,Arrow-Leaf		OBL
X	*Typha latifolia*	Cattail,Broad-Leaf		OBL
X	*Ludwigia decurrens*	Willow,Primrose		OBL
X	*Carex intumescens*	Sedge,Bladder		FACW

% Species that are OBL, FACW, or FAC (except FAC-): **100**
Cowardin Classification:

Remarks

Hydrology

[ ] Recorded Data (describe in remarks)
- [ ] Stream, Lake, or Tide Gage
- [ ] Aerial Photograph
- [ ] Other (describe in remarks)

Field Observations:
- Depth of Surface Water(in.):
- Depth to Free Water in Pit(in.):
- Depth to Saturated Soils(in.):

Primary Wetland Hydrology Indicators
- [ ] Inundated
- [X] Saturated in upper 12 inches
- [ ] Water marks
- [ ] Drift lines
- [ ] Sediment deposits
- [X] Drainage patterns in wetlands

Secondary Hydrology Indicators
- [X] Oxidized root channels
- [ ] Water-stained leaves
- [ ] Local soil survey data
- [ ] FAC-Neutral test
- [ ] Other (explain in remarks)

Remarks

Soils

Depth (in.)	Hor.	Matrix Color	Mottle / 2nd Mottle Color	Abundance	Contrast	Texture, Structure, etc.
0-12		10YR 4/1				Clay Loam

Hydric Soils Indicators
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic Odor
- [ ] Probable Aquatic Moist Regime
- [X] Reducing Conditions
- [X] Gleyed or Low-Chroma Colors
- [ ] Concretions
- [ ] High Organic % in Surface Layer in Sandy Soils
- [ ] Organic Streaking in Sandy Soils
- [ ] Listed on Local Hydric Soils List
- [ ] Listed on National Hydric Soils List
- [ ] Other (explain in remarks)

Unit Name:
Drainage Class:
Taxonomy:
[ ] Field Observations match map

Remarks

Wetland Determination

[**True**] Hydrophytic Vegetation Present
[**True**] Hydric Soils Present
[**True**] Wetland Hydrology Present
[**True**] This Data Point is a Wetland

Remarks

Data Form
Routine Wetland Determination

Job Number: **04123215**
Town/Village/City:
Wetland Data Point: **Upland 1**

Project/Site: **Jim Moore Road-Sharon Church Transmission Line**
Applicant/Owner: **Georgia Transmission Corporation**
Investigator: **KAM**
[**True**] Do normal circumstances exist on the site?
[**False**] Is the site significantly disturbed (Atypical Situation)?
[**False**] Is the area a potential problem area?

Date: **July 16, 2007**
County: **Gwinnett and Barrow**
State: **Georgia**
Community ID: **Upland**
Station ID:
Plot ID: **for J Wet 1**

Vegetation

Dominant	Species	Common Name / CofC	% Cover	Indicator
Herbaceous				
X	*Polystichum acrostichoides*	Fern,Christmas		FAC
Tree				
X	*Pinus taeda*	Pine,Loblolly		FAC
X	*Cornus florida*	Dogwood,Flowering		FACU
X	*Carya glabra*	Hickory,Sweet Pignut		FACU
X	*Fagus grandifolia*	Beech,American		FACU
X	*Quercus falcata*	Oak,Southern Red		FACU-
Vine				
X	*Smilax rotundifolia*	Greenbrier,Common		FAC

% Species that are OBL, FACW, or FAC (except FAC-): **42**
Cowardin Classification:

Remarks

Hydrology

[ ] Recorded Data (describe in remarks)
- [ ] Stream, Lake, or Tide Gage
- [ ] Aerial Photograph
- [ ] Other (describe in remarks)

Field Observations:
- Depth of Surface Water(in.):
- Depth to Free Water in Pit(in.):
- Depth to Saturated Soils(in.):

Primary Wetland Hydrology Indicators
- [ ] Inundated
- [ ] Saturated in upper 12 inches
- [ ] Water marks
- [ ] Drift lines
- [ ] Sediment deposits
- [ ] Drainage patterns in wetlands

Secondary Hydrology Indicators
- [ ] Oxidized root channels
- [ ] Water-stained leaves
- [ ] Local soil survey data
- [ ] FAC-Neutral test
- [ ] Other (explain in remarks)

Remarks
No hydrology observed.

Soils

Depth (in.)	Hor.	Matrix Color	Mottle / 2nd Mottle Color	Abundance	Contrast	Texture, Structure, etc.
0-12		10YR 4/6				Clay Loam

Hydric Soils Indicators
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic Odor
- [ ] Probable Aquatic Moist Regime
- [ ] Reducing Conditions
- [ ] Gleyed or Low-Chroma Colors
- [ ] Concretions
- [ ] High Organic % in Surface Layer in Sandy Soils
- [ ] Organic Streaking in Sandy Soils
- [ ] Listed on Local Hydric Soils List
- [ ] Listed on National Hydric Soils List
- [ ] Other (explain in remarks)

Unit Name:
Drainage Class:
Taxonomy:
[ ] Field Observations match map

Remarks

Wetland Determination

[**False**] Hydrophytic Vegetation Present
[**False**] Hydric Soils Present
[**False**] Wetland Hydrology Present
[**False**] This Data Point is a Wetland

Remarks

Data Form
Routine Wetland Determination

Job Number: **04123215**
Town/Village/City:
Wetland Data Point: **Upland 2**

Project/Site: **Jim Moore Road-Sharon Church Transmission Line**
Applicant/Owner: **Georgia Transmission Corporation**
Investigator: **KAM**
[**True**] Do normal circumstances exist on the site?
[**False**] Is the site significantly disturbed (Atypical Situation)?
[**False**] Is the area a potential problem area?

Date: **July 16, 2007**
County: **Gwinnett and Barrow**
State: **Georgia**
Community ID: **Upland**
Station ID:
Plot ID: **for J Wet 2**

Vegetation

Dominant	Species	Common Name / CofC	% Cover	Indicator
Herbaceous				
X	*Andropogon virginicus*	Broom-Sedge		FAC-
X	*Eupatorium capillifolium*	Thorough-Wort,Small Dog-Fennel		FACU
X	*Rubus argutus*	Blackberry,Serrate-Leaf		FACU+
Shrub				
X	*Liriodendron tulipifera*	Tree,Tulip		FAC
X	*Liquidambar styraciflua*	Gum,Sweet		FAC+

% Species that are OBL, FACW, or FAC (except FAC-): **40**
Cowardin Classification:

Remarks

Hydrology

[ ] Recorded Data (describe in remarks)
- [ ] Stream, Lake, or Tide Gage
- [ ] Aerial Photograph
- [ ] Other (describe in remarks)

Field Observations:
- Depth of Surface Water(in.):
- Depth to Free Water in Pit(in.):
- Depth to Saturated Soils(in.):

Primary Wetland Hydrology Indicators
- [ ] Inundated
- [ ] Saturated in upper 12 inches
- [ ] Water marks
- [ ] Drift lines
- [ ] Sediment deposits
- [ ] Drainage patterns in wetlands

Secondary Hydrology Indicators
- [ ] Oxidized root channels
- [ ] Water-stained leaves
- [ ] Local soil survey data
- [ ] FAC-Neutral test
- [ ] Other (explain in remarks)

Remarks
No hydrology observed.

Soils

Depth (in.)	Hor.	Matrix Color	Mottle / 2nd Mottle Color	Abundance	Contrast	Texture, Structure, etc.
0-12		10YR 4/6				Clay Loam

Hydric Soils Indicators
- [ ] Histosol
- [ ] Histic Epipedon
- [ ] Sulfidic Odor
- [ ] Probable Aquatic Moist Regime
- [ ] Reducing Conditions
- [ ] Gleyed or Low-Chroma Colors
- [ ] Concretions
- [ ] High Organic % in Surface Layer in Sandy Soils
- [ ] Organic Streaking in Sandy Soils
- [ ] Listed on Local Hydric Soils List
- [ ] Listed on National Hydric Soils List
- [ ] Other (explain in remarks)

Unit Name:
Drainage Class:
Taxonomy:
[ ] Field Observations match map

Remarks

Wetland Determination

[**False**] Hydrophytic Vegetation Present
[**False**] Hydric Soils Present
[**False**] Wetland Hydrology Present
[**False**] This Data Point is a Wetland

Remarks

6801 Governors Lake Parkway, Norcross, Georgia 30071
770.455.8555 • Fax 770.455.7391 • www.jjg.com

9.2 Agency Correspondence

The following appendix contains the correspondence between Georgia Transmission Corporation and appropriate federal and state agencies.

1. Correspondence with the Georgia Department of Natural Resources GNHP (Georgia Natural Heritage Program) regarding protected species occurrences.

   Review of the reported information on the GNHP website (http://www.dnr.state.ga.us/dnr/wild/) indicates that there are no known locations of any listed or tracked species within the USGS quarter quadrangle that the project is within.

   In addition to reviewing existing database information, the GNHP was to request information on all protected species and their known occurrences. A response from GNHP regarding this information was received August 2, 2005. GNHP reports a known occurrence of one aquatic species *Cyprinella xaenura* (Altamaha shiner) within a three mile radius of the south end of the proposed transmission line corridor.

2. The U.S. Fish and Wildlife Service (USFWS) website (http://athens.fws.gov) was used regarding the potential occurrence of protected species. The county index of Endangered Species provided the most current list of the county in which the project is located.

Noel Holcomb, Commissioner
Dan Forster, Director

Georgia Department of Natural Resources
Wildlife Resources Division
Nongame Conservation Section
2065 U.S. Highway 278, S.E., Social Circle, Georgia 30025-4743
(770) 918 6411

September 11, 2007

Kevin Mullinax
Ecologist
Jordan, Jones, & Goulding
6801 Governors Lake Parkway
Building 200
Norcross, GA 30071

Subject: **Known Occurrences of Conservation Areas and Special Concern Animals and Plants On or Near Jim Moore Road - Sharon Church 230 kV Transmission Line Project, Barrow County, Georgia**

Dear Mr. Mullinax:

This is in response to your request of August 8, 2007. According to our records, within a three-mile radius of the project corridor there are the following Natural Heritage Database occurrences:

Jim Moore Road Substation (-83.90664, 34.03491; NAD27):
Aesculus glabra (Ohio Buckeye) approx. 1.5 mi. NE of site
Alcovy River [High Priority Stream] approx. 2.0 mi. SW of site
Apalachee River [High Priority Stream] approx. 1.0 mi. SW of site
Little Mulberry River Park [Gwinnett County Parks and Recreation Department] approx. 0.5 mi. E of site

Gwinnett / Barrow County Line (-83.85428, 34.03837; NAD27):
Panax quinquefolius (American Ginseng) approx. 1.5 mi. NW of site
GA *Veratrum woodii* (Ozark Bunchflower) approx. 1.5 mi. NW of site

Sharon Church Substation (-83.80850, 34.09456; NAD27):
US *Amphianthus pusillus* (Pool Sprite) approx. 2.5 mi. N of site
GA *Cyprinella xaenura* (Altamaha Shiner) approx. 1.0 mi. NW of site in Duncan Creek
Hemidactylium scutatum (Four-toed Salamander) approx. 2.0 mi. N of site
US *Isoetes melanospora* (Black-spored Quillwort) approx. 2.5 mi. N of site
US *Isoetes tegetiformans* (Mat-forming Quillwort) approx. 2.5 mi. N of site

* Entries above proceeded by "US" indicates species with federal status in Georgia (Protected or Candidate). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

Recommendations:

We have no records of species of concern within the project corridor. However, three federally listed species, *Amphianthus pusillus* (Pool Sprite), *Isoetes melanospora* (Black-spored Quillwort) and *Isoetes tegetiformans* (Mat-forming Quillwort) are within three miles of the proposed project. These species rely on granite rock outcrop habitats. If no outcrop habitats are found within the project corridor, this project should not negatively impact these species. We recommend thoroughly surveying the project corridor for these and other species of concern before any work is begun. Section 9 of the Endangered Species Act states that taking or harming of a listed species is prohibited. We recommend all requestors with projects located near federally protected species consult with Robin Goodloe of the United States Fish and Wildlife Service (706-613-9493, ext.221 or Robin_Goodloe@fws.gov).

In order to protect aquatic habitats and water quality, we recommend that all machinery be kept out of creeks during powerline construction. Streams should not be culverted/forded to allow equipment access during construction or for future ROW maintenance. Further, we strongly advocate retaining at least a 25-foot vegetative buffer between each stream bank and the closest power pole, and allow this buffer to regenerate to shrub-scrub growth after the pipe is installed (if the landowner is willing). We realize that some trees may have to be removed, but recommend that shrubs and ground vegetation be left in place. Wider buffers may be needed for projects where land slopes sharply toward the stream being crossed. We also recommend that stringent erosion control practices be used during construction activities and that vegetation is re-established on disturbed areas as quickly as possible. Silt fences and other erosion control devices should be inspected and maintained until soil is stabilized by vegetation. Please use natural vegetation and grading techniques (e.g. vegetated swales, turn-offs, vegetated buffer strips) that will ensure that the project area does not serve as a conduit for storm water or pollutants into the water during or after construction. These measures will help protect water quality in the vicinity of the project as well as in downstream areas.

Please be aware that this project occurs near the Alcovy and Apalachee Rivers, both high priority streams. As part of an effort to develop a comprehensive wildlife conservation strategy for the state of Georgia, the Wildlife Resources division has developed and mapped a list of streams that are important to the protection or restoration of rare aquatic species and aquatic communities. High priority waters and their surrounding watersheds are a high priority for a broad array of conservation activities, but do not receive any additional legal protections. We now have GIS ESRI shapefiles of GA high priority waters available on our website (http://www.georgiawildlife.com/content/displaycontent.asp?txtDocument=89&txtPage=13). Please contact the Georgia Natural Heritage Program if you would like additional information on high priority waters.

New Data Available on the Nongame Conservation Section Website

We have recently updated the Nongame Conservation Section Website!!! You can view the updated rare species and natural community information by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at:

http://georgiawildlife.dnr.state.ga.us/content/displaycontent.asp?txtDocument=89

An updated ESRI shape file of our rare species and natural community data by quarter quad and county is also available. It can be downloaded from:
http://georgiawildlife.dnr.state.ga.us/assets/documents/gnhp/gnhpds.zip

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of special concern species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.georgiawildlife.com) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Katrina Morris
Environmental Review Coordinator

9.3 Results of the Preliminary Environmental Justice Survey

Results of the Environmental Justice Survey
Jim Moore Road-Sharon Church 230 kV Transmission Line

An environmental justice (EJ) survey was conducted for the Jim Moore Road-Sharon Church 230 kV Transmission Line in Barrow and Gwinnett Counties, Georgia. The survey was conducted in accordance with GTC's *Environmental Justice Guidelines* and *Methodology for Analyzing Potential Environmental Justice Areas of Concern.* The GTC EJ documents, based upon methodology developed by EPA Region IV, explain the fundamental details of this analysis. The EPA methodology is based on Census 1990; however, the minority and low-income population percentages in Georgia changed during the decade leading up to Census 2000. The minority population increased from approximately 30% in 1990 to 37.3% in 2000, while the low-income population decreased from 14.7% to 13.0%. The EPA has not yet developed new thresholds for the latest Census numbers. At this time, GTC is continuing to use the 1990 EPA thresholds for environmental justice evaluations. Therefore, the minority analysis is more inclusive than will be required by future EPA thresholds, but the low-income analysis is less inclusive. The results of the survey are detailed below.

Race: Minority populations were analyzed at the Census 2000 block level. The minority population was defined by grouping together all non-white races, Hispanics, and those whose race is described as the combination of two or more races. A block is considered to be a potential EJ area if the minority population percentage of the block is greater than the percentage specified as the EPA minority threshold (35.72% of the total population).

The proposed transmission line intersects 49 Census blocks (Figure 1). Ten blocks are in Gwinnett County, and 39 blocks are in Barrow County. Each entire intersecting block was evaluated for EJ purposes; however, the proposed transmission line follows along existing roadways for much of its length, and these roadways typically form the block boundaries. A single Census block along the proposed line in Barrow County has a minority population percentage above the EPA threshold and is therefore classified as a potential EJ area. Five (5) blocks along the proposed route have no population, and the remaining 43 blocks have minority population percentages that are below the EPA threshold and are not considered to be potential EJ areas. The single high-minority block is located along the south side of Union Grove Church Road, and the proposed transmission line is routed along the north side of the road.

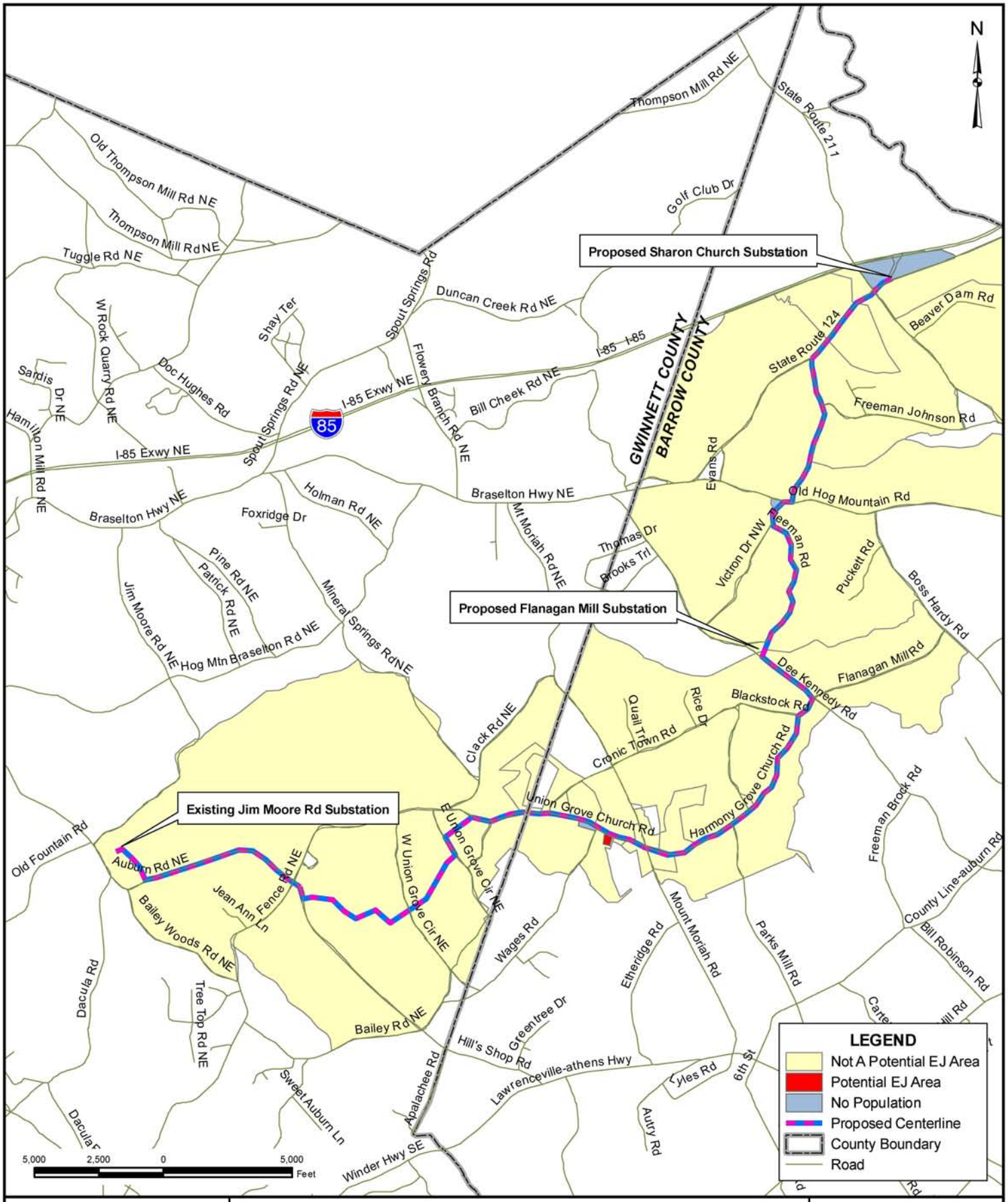
A review of aerial photography indicates that numerous existing homes and businesses are found along the proposed route. The cross-country line segments generally pass through fields and forested areas and are sufficiently removed from existing structures. However, as the route approaches S.R. 324 (Auburn Road) from the east, two homes are located approximately 90 feet from the proposed line. Neither of these homes is in the high-minority Census block.

Income: Low-income populations were analyzed at the Census 2000 block group level. The low-income population was defined as those individuals living below the 1999 U.S. poverty levels. The block group is considered to be a potential EJ area if the low-income population percentage of a block group is greater than the percentage specified as the EPA low-income threshold (17.58% of the total population).

The proposed transmission line intersects a total of four (4) Census block group (Figure 2), two in each of the affected counties. Each entire intersecting block group was evaluated for EJ purposes, even though the proposed transmission line affects relatively small areas within the block groups. The low-income population percentages of these block groups range from 3.03% to 7.23% of the

total populations, all of which are well below the EPA threshold. Therefore, none of these block groups is considered to be a potential EJ area in terms of income.

Conclusion: The methodology utilized for this study is consistent with guidelines developed and advocated by EPA Region IV. The EPA guidelines are described fully in the GTC documents noted above. A review of the Jim Moore Road-Sharon Church 230 kV Transmission Line found a potential environmental justice area for minority populations but none for low-income populations. A review of aerial photography (March, 2003) was conducted as a component of this analysis. This review indicates that the proposed transmission line is primarily routed along existing roads which are relatively well-developed. Numerous homes and other structures are located along the proposed line, but the route does not directly impact any structures in potential EJ areas. Specific locations of minority or low-income populations cannot be determined at this level of analysis; however, the information available for use in this analysis indicates that construction of the proposed transmission line is not likely to result in disproportionately high and adverse impacts to minority or low-income populations.



GeorgiaTransmission

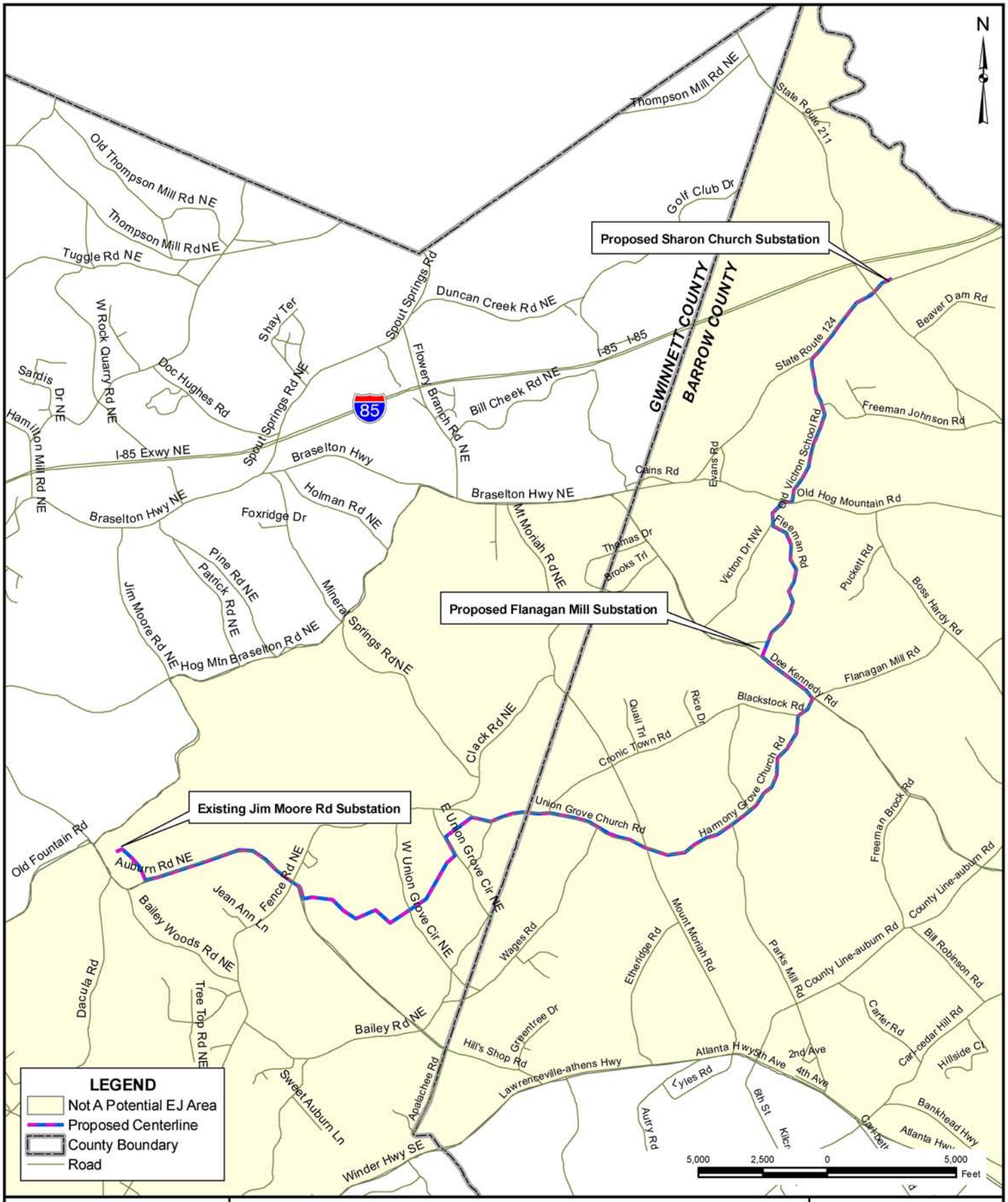
JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line
Gwinnett and Barrow Counties, Georgia

Environmental Justice Analysis
Minority Populations

Date: February 2008
Scale: 1" = 5000'
Proj. No.: 04123204

Figure 1



GeorgiaTransmission

JORDAN JONES & GOULDING

Jim Moore Road-Sharon Church 230 kV Transmission Line
Barrow and Gwinnett Counties, Georgia

Environmental Justice Analysis
Low-Income Populations

Date: February 2008
Scale: 1" = 5000'
Proj. No.: 04123204

Figure 2

9.4 Electrical Alternatives Analysis

Prepared by Georgia Transmission